

What is claimed is:

1 1. A system for providing dynamic screening of transient messages in
2 a distributed computing environment, comprising:

3 an antivirus system intercepting an incoming message at a network
4 domain boundary, the incoming message including a header comprising a
5 plurality of address fields storing contents;
6 a stored set of blocking rules, each blocking rule defining readily-
7 discoverable characteristics indicative of messages infected with at least one of a
8 computer virus, malware and bad content;

9 a parser module identifying the contents of each address field;
10 a comparison module checking the contents of each address field against
11 the blocking rules to screen infected messages and identify clean messages; and
12 an intermediate message queue staging each such clean message pending
13 further processing.

1 2. A system according to Claim 1, further comprising:
2 a message receiver discarding each such infected message without further
3 processing.

1 3. A system according to Claim 1, wherein each such blocking rule is
2 specified as a regular expression containing at least one of literal and wildcard
3 values.

1 4. A system according to Claim 1, further comprising:
2 an antivirus scanner scanning each message in the intermediate message
3 queue for at least one of a computer virus, malware and bad content.

1 5. A system according to Claim 4, further comprising:
2 an event handler performing each scanning operation as an event
3 responsive to each such clean message staged in the intermediate message queue.

1 6. A system according to Claim 1, further comprising:

2 a gateway receiving the incoming messages into the network domain
3 boundary.

1 7. A system according to Claim 1, wherein the structured fields
2 comprise at least one of sender, recipient, copied recipient, blind copied recipient,
3 date, time, and subject.

1 8. A system according to Claim 1, wherein the incoming message
2 comprises at least one attachment.

1 9. A system according to Claim 1, wherein the distributed computing
2 environment is TCP/IP-compliant and each incoming message is SMTP-
3 compliant.

1 10. A method for providing dynamic screening of transient messages
2 in a distributed computing environment, comprising:

3 intercepting an incoming message at a network domain boundary, the
4 incoming message including a header comprising a plurality of address fields
5 storing contents;

6 maintaining a set of blocking rules, each blocking rule defining readily-
7 discoverable characteristics indicative of messages infected with at least one of a
8 computer virus, malware and bad content;

9 identifying and checking the contents of each address field against the
10 blocking rules to screen infected messages and identify clean messages; and
11 staging each such clean message into an intermediate message queue
12 pending further processing.

1 11. A method according to Claim 10, further comprising:
2 discarding each such infected message without further processing.

1 12. A method according to Claim 10, further comprising:
2 specifying each such blocking rule as a regular expression containing at
3 least one of literal and wildcard values.

1 13. A method according to Claim 10, further comprising:
2 scanning each message in the intermediate message queue for at least one
3 of a computer virus, malware and bad content.

1 14. A method according to Claim 13, further comprising:
2 performing each scanning operation as an event responsive to each such
3 clean message staged in the intermediate message queue.

1 15. A method according to Claim 10, further comprising:
2 receiving the incoming messages at a gateway into the network domain
3 boundary.

1 16. A method according to Claim 10, wherein the structured fields
2 comprise at least one of sender, recipient, copied recipient, blind copied recipient,
3 date, time, and subject.

1 17. A method according to Claim 10, wherein the incoming message
2 comprises at least one attachment.

1 18. A method according to Claim 10, wherein the distributed
2 computing environment is TCP/IP-compliant and each incoming message is
3 SMTP-compliant.

1 19. A computer-readable storage medium holding code for performing
2 the method according to Claims 10, 11, 12, 13, 14, 15, 16, 17, or 18.

1 20. A system for efficiently detecting computer viruses and malware at
2 a network domain boundary, comprising:
3 an antivirus system receiving an incoming message packet from a sending
4 client at a network domain boundary through an open connection, the incoming
5 message packet comprising a header including fields, which each store field
6 values;
7 a message receiver comprising:

8 a parser module parsing the field values from each field in the
9 header of each incoming message packet by extracting tokens representing the
10 field values;

11 a comparison module comparing the tokens to characteristics
12 indicative of at least one of a computer virus and malware to identify screened
13 incoming message packets, and forwarding each screened incoming message
14 packet.

1 21. A system according to Claim 20, wherein each incoming message
2 packet further comprises a body storing message content, further comprising:
3 an antivirus scanner scanning the message content of the body of each
4 screened incoming message packet for at least one of a computer virus and
5 malware to identify uninfected screened incoming message packets, and
6 forwarding each uninfected screened incoming message packet.

1 22. A system according to Claim 20, further comprising:
2 a message queue enqueueing each screened incoming message packet.

1 23. A system according to Claim 20, wherein the antivirus system
2 closes the open connection to the sending client of each non-screened incoming
3 message packet.

1 24. A system according to Claim 20, wherein the comparison module
2 analyzes at least one of a sender, recipient, copied recipient, blind copied
3 recipient, date, time, and subject field in the header of each incoming message
4 packet.

1 25. A system according to Claim 20, wherein the comparison module
2 applies blocking rules to the field values of the header of each incoming message
3 packet.

1 26. A system according to Claim 20, wherein the distributed
2 computing environment is TCP/IP-compliant and each incoming message packet
3 is SMTP-compliant.

1 27. A method for efficiently detecting computer viruses and malware
2 at a network domain boundary, comprising:

3 receiving an incoming message packet from a sending client at a network
4 domain boundary through an open connection, the incoming message packet
5 comprising a header including fields, which each store field values;

6 parsing the field values from each field in the header of each incoming
7 message packet by extracting tokens representing the field values;

8 comparing the tokens to characteristics indicative of at least one of a
9 computer virus and malware to identify screened incoming message packets; and
10 forwarding each screened incoming message packet.

1 28. A method according to Claim 27, wherein each incoming message
2 packet further comprises a body storing message content, further comprising:

3 scanning the message content of the body of each screened incoming
4 message packet for at least one of a computer virus and malware to identify
5 uninfected screened incoming message packets; and

6 forwarding each uninfected screened incoming message packet.

1 29. A method according to Claim 27, further comprising:

2 enqueueing each screened incoming message packet onto a message
3 queue.

1 30. A method according to Claim 27, further comprising:

2 closing the open connection to the sending client of each non-screened
3 incoming message packet.

1 31. A method according to Claim 27, further comprising:

2 analyzing at least one of a sender, recipient, copied recipient, blind copied
3 recipient, date, time, and subject field in the header of each incoming message
4 packet.

1 32. A method according to Claim 27, further comprising:

2 applying blocking rules to the field values of the header of each incoming
3 message packet.

1 33. A method according to Claim 27, wherein the distributed
2 computing environment is TCP/IP-compliant and each incoming message packet
3 is SMTP-compliant.

1 34. A computer-readable storage medium holding code for performing
2 the method according to Claims 27, 28, 29, 30, 31, 32, or 33: